UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2006*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-15* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *29 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some * c)☐ None of:
      1.☒ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *5-15-2007*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim.

Claims 9, and 11-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **claim 9**, line 1 of the claim refers to "a kind of HD-DVD disc." By using the term "a kind of," it is unclear as to what specific kind of HD-DVD disc Applicant is referring to.

Regarding **claim 11**, line 1 of the claim refers to "means for creating VOBU in HD-DVD systems." In light of the specification, it is unclear as to what specific means for creating VOBU in HD-DVD systems the applicant is referring.

Regarding **claim 12**, line 3 of the claim refers to "means for resolution downgrade," while line 9 of the claim refers to "means for resolution upgrade." In light of the specification, it is unclear as to what specific means for both resolution downgrade and resolution upgrade the applicant is referring.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6, and 8-15 are rejected under 35 U.S.C. 102(e) as being anticipated

by Lin et al (US PgPub 2006/0062294), hereinafter referred to as Lin.

Regarding **claim 1**, Lin discloses two-layer decoding for high-definition DVD.

Further, Lin discloses an apparatus and method for hybrid high-definition ("HD") video

decoding, which reads on the claimed, "a method of creating VOBU in HD-DVD

systems," as disclosed at paragraph [0007]; the method comprising:

receiving through downsampling unit (610) an original HD sequence and

downsampling it to provide base layer pixels to MPEG-2 encoder (612) that provides a

base layer bitstream output, as well as encoder (624) providing an enhancement layer

bitstream output, which reads on the claimed, "a. gain HD-enh data streams and SD

video data streams by dividing original HD video data streams," as disclosed at

paragraph [0032] and exhibited in figure 5; and,

encoded SD and HD data is encoded by MPEG-2 encoder (612) and MPEG-4

encoder (624), the data including VIDEO_MPEG, AUDIO, and VIDEO_MPEG4 packets,

which reads on the claimed, "b. all kinds of data streams including HD-enh video data

streams, SD video data streams, and audio data streams are packed to HD-enh video

data packet (V_PCK_HD), video data packet (V_PCK), and audio data packet (A_PCK)

respectively to compose a series of VOBUs," as disclosed at paragraph [0032] and

exhibited in figure 1 (where "VIDEO_MPEG" reads on "V_PCK," "AUDIO" reads on

"A_PCK," and "VIDEO_MPEG4" reads on "V_PCK_HD").

Regarding **claim 2**, Lin discloses everything claimed as applied above (see claim

1). Further, Lin discloses the coding of video data being done using a hybrid MPEG-2

and MPEG-4 interleaving, which reads on the claimed, "further comprising a step of

writing the data in the VOBU into an optical disc in turn to create a HD-DVD disc," as

disclosed at paragraph [0039] (wherein the data being coded and read from an optical

disc implies that it was written into an optical disc).

Regarding **claim 3**, Lin discloses everything claimed as applied above (see claim

1). Further, Lin discloses creating two program chains, one for the base layer and the

other for the high or enhancement layer, which reads on the claimed, "further

comprising a step of creating mapping file by a series of VOBUs to make HD_DVD

disc," as disclosed at paragraph [0031].

Regarding **claim 4**, Lin discloses everything claimed as applied above (see claim

2). Further, Lin discloses the video data in a VOBU being organized as shown in table

(400), wherein table (400) discloses sectors "i + 1 to j -- First picture enhancement layer

data plus padding data" and "j + 1 to n -- First picture base layer data plus padding

data" being sequenced adjacently in the same VOBU, which reads on the claimed,

"wherein said V PCK HD data packet and related V PCK data packet are sequenced

adjacently in the same VOBU," as disclosed at paragraph [0030] and exhibited in figure 4.

Regarding **claim 5**, Lin discloses everything claimed as applied above (see claim 1). Further, Lin discloses AUDIO in the same track buffer (110) as VIDEO_MPEG and VIDEO_MPEG4, which reads on the claimed, "wherein said V_PCK_HD data packet and said V_PCK data packet can share the same A_PCK data packet in the VOBU," as exhibited in figure 1.

Regarding **claim 6**, Lin discloses everything claimed as applied above (see claim 1). Further, Lin discloses enhancement layer data stored as VIDEO_MPEG4, which reads on the claimed, "wherein the HD-enh video data streams are packed to V_PCK_HD packet according to the defined structure of the V_PCK_HD data packet in said step b," as exhibited in figure 1.

Regarding **claim 8**, Lin discloses everything claimed as applied above (see claim 6). Further, Lin discloses the enhancement layer being stored as GOP user data or picture user data, which reads on the claimed, "wherein the HD-enh video data is put into the private stream, and the structure of the V_PCK HD data packet is defined with a reserved or provider defined Sub_Stream_ID, namely the identification mark of the sub-stream," as disclosed at paragraph [0022].

Regarding **claim 9**, Lin discloses a two-layer decoding for hybrid high-definition DVD. Further, Lin discloses a single digital videodisc ("DVD") with integrated standard definition and high definition video, which reads on the claimed, "wherein said disc

contains V_PCK_HD data packet and V_PCK data packet," as disclosed at paragraph [0010].

Regarding **claim 10**, Lin discloses everything claimed as applied above (see claim 9). Further, Lin discloses the video data in a VOBU being organized as shown in table (400), wherein table (400) discloses sectors "i + 1 to j -- First picture enhancement layer data plus padding data" and "j + 1 to n -- First picture base layer data plus padding data" being sequenced adjacently in the same VOBU, which reads on the claimed, "wherein said V_PCK_HD data packet and related V_PCK data packet are sequenced adjacently in the HD-DVD disc," as disclosed at paragraph [0030] and exhibited in figure 4.

Regarding **claim 11,** Lin discloses a two-layer decoding for hybrid high-definition DVD. Further, Lin discloses an apparatus and method for hybrid high-definition ("HD") video decoding, which reads on the claimed, "means for creating VOBU in HD-DVD systems," as disclosed at paragraph [0007]; the apparatus comprising:

encoder (600) which receives an original HD sequence and provides both a base bitstream as well as an enhancement bitstream, which reads on the claimed, "a segregating unit, used to divide original HD video data streams into HD-enh data streams and SD video data streams," as disclosed at paragraph [0032] and exhibited in figure 5; and,

summing block (618), which accepts reconstructed enhancement pixels and reconstructed base pixels, which reads on the claimed, "a multiplexer, used to pack all kinds of input data streams including HD-enh video data streams, SD video data

streams, audio data streams into HD-enh video data packet (V_PCK_HD), video data

packet (V_PCK), audio data packet (A_PCK) respectively composing a series of

VOBUs; and the said segregating unit is joined with the multiplexer," as exhibited in

figure 5.

Regarding **claim 12**, Lin discloses everything claimed as applied above (see

claim 11). Further, Lin discloses:

downsampling unit (610) which downsamples an original HD sequence to

provide base layer pixels, which reads on the claimed, "means for resolution

downgrade, used to downgrade the resolution of the input original HD video data

streams," as disclosed at paragraph [0032];

MPEG-2 encoder (612) that receives the base layer pixels from the

downsampling unit and provides a base layer bitstream output, which reads on the

claimed, "SD encoder, used to encode the input data streams which have been

resolution-downgraded to gain SD video data streams, and transmit the SD video data

streams to the multiplexer," as disclosed at paragraph [0032];

MPEG-2 decoder (710) for receiving a base layer bitstream, which reads on the

claimed, "decoder, used to decode the input SD video data streams," as disclosed at

paragraph [0033];

interpolation unit (616) which interpolates the reconstructed base layer pixels and

adds the result to the reconstructed enhancement layer pixels to obtain reconstructed

HD frames, which reads on the claimed, "means for resolution upgrade, used to

upgrade the resolution of the input decoded SD video data streams," as disclosed at paragraph [0034];

summing block (611) which accepts the output from interpolation unit (616) as well as the original HD sequence, which reads on the claimed, "a differential means, used to perform differential process on the input data streams which have been resolution-upgraded and the input original HD video data streams," as exhibited in figure 5; and,

modified MPEG-4 encoder (624) which provides an enhancement layer bitstream output, which reads on the claimed, "HD-enh encoder, used to encode the data streams which have been differentiated to gain HD-enh video data streams, and transmit the HD-enh video data streams to the multiplexer," as disclosed at paragraph [0032].

Regarding **claim 13**, Lin discloses everything claimed as applied above (see claim 11). Further, Lin discloses the encoders (612) and (624) both pertaining to either MPEG-2 or MPEG-4 standards, and these signals being fed into summing block (618), which reads on the claimed, "wherein said multiplexer is the multiplexer which accords with DVD standard," as exhibited in figure 5 (wherein because all of the signals accord with DVD standards, i.e. MPEG-2 and MPEG-4, summing block (418) must also accord with DVD standards since it accepts these signals).

Regarding **claim 14**, Lin discloses a two-layer decoding for hybrid high-definition DVD. Further, Lin discloses an apparatus and method for hybrid high-definition ("HD") video decoding, which reads on the claimed, "means for playing HD-DVD disc," as disclosed at paragraph [0007]; the means comprising:

hybrid interleaving decoder (700) which accepts an enhancement bitstream as well as a base bitstream, which reads on the claimed, "optical wave picker, used to deal with the input VOBU data streams in the HD-DVD disc to gain V_PCK_HD data packet and V_PCK data packet," as disclosed at paragraph [0033] and exhibited in figure 6;

modified JVT decoder (716) and MPEG-2 decoder (710) which decode an enhancement bitstream and a base bitstream, respectively, which reads on the claimed, "HD-DVD decoder, used to respectively decode the V_PCK_HD data packet and V_PCK data packet to gain HD-enh video data streams and SD video data streams," as disclosed at paragraph [0033];

interpolation unit (714), which reads on the claimed, "means for resolution upgrade, used to upgrade the resolution of the input SD video data streams," as disclosed at paragraph [0034]; and,

summing block (718) which adds the reconstructed base layer pixels from the interpolation unit (714) to the reconstructed enhancement layer pixels to obtain reconstructed HD frames, which reads on the claimed, "means for overlapping, used to overlap the input SD video data streams which have been resolution upgraded with the input HD-enh video data streams to gain the output of the high definition TV," as disclosed at paragraphs [0033]-[0034].

Regarding **claim 15**, Lin discloses everything claimed as applied above (see claim 14). Further, Lin discloses HD frame buffer (722), SD frame buffer (712), modified JVT decoder (716) and MPEG-2 decoder (710), buffer (722) and decoder (716) being used to provide an output suitable for an HD display, as well as buffer (712) and

decoder (710) providing an output suitable for an SD display, which reads on the

claimed, "wherein said HD-DVD decoder contains a V PCK HD buffer, a V PCK buffer,

a HD-enh decoder and a SD decoder, said V_PCK_HD buffer and the HD-enh decoder

process the V_PCK_HD packet in turn to gain HD-enh video data streams, said V_PCK

buffer and SD decoder deal with the V_PCK packet in turn to gain SD video data

streams," as disclosed at paragraph [0033] and exhibited in figure 6.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over

unpatentable over Lin et al (US PgPub 2006/0062294), hereinafter referred to as Lin, in

view of Comer et al (US PgPub 2005/0185937), hereinafter referred to as Comer.

Regarding **claim 7**, Lin discloses everything claimed as applied above (see claim

6). However, Lin fails to disclose wherein the structure of the V_PCK_HD data packet

is defined with a reserved Stream ID, namely the identification mark of the stream, in

MPEG standards. The examiner maintains that it was well known in the art to include

wherein the structure of the V_PCK_HD data packet is defined with a reserved Stream

ID, namely the identification mark of the stream, in MPEG standards, as taught by

Comer.

In a similar field of endeavor, Comer discloses interleaving of base and enhancement layers for HD-DVD using alternate stream identification for enhancement layer. Further, Comer discloses the enhancement layer can be encoded with a second stream identification which can be 0xBF, 0xFA, 0xFB, 0xFC, 0xFD, or 0xFE, which reads on the claimed, "wherein the structure of the V_PCK_HD data packet is defined with a reserved Stream ID, namely the identification mark of the stream, in MPEG standards," as disclosed at paragraph [0007].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the two-layer decoding for high-definition DVD of Lin to include the enhancement layer can be encoded with a second stream identification which can be 0xBF, 0xFA, 0xFB, 0xFC, 0xFD, or 0xFE, as taught by Comer, for the purpose of storing both standard definition and high definition versions of a movie on a single side of a DVD.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARC DAZENSKI whose telephone number is (571)270-5577. The examiner can normally be reached on M-F, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571)272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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